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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,290	02/12/2004	Jean-Luc Soupizon	248848US6	3501
22850	7590	03/24/2005		EXAMINER
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			VERDIER, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/776,290	SOUPIZON ET AL. <i>(JD)</i>	
	Examiner Christopher Verdier	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3,5-7 and 10 is/are rejected.
- 7) Claim(s) 2,4,8 and 9 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 February 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-12-04</u> . | 6) <input type="checkbox"/> Other: _____. |

Specification

The abstract of the disclosure is objected to because line 12 contains the legal term "said" which should be deleted, and lines 14-15 contain the phrase "The invention" which is implied and should be deleted. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: Appropriate correction is required.

On page 1, line 1, "Title of the invention" should be deleted and replaced by the actual title of the invention.

Claim Objections

Claims 7-8 are objected to because of the following informalities: Appropriate correction is required.

In claim 7, line 1, "the" should be changed to -- each --.

In claim 7, line 2, "the" should be changed to -- each respective --.

In claim 8, line 1, "the" should be changed to -- each --.

In claim 8, line 2, "the" should be changed to -- each respective --.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 5 and 10, the last line two lines recite "where N₂ and N₁ are the speeds of rotation of the HP and LP turbines". This is inaccurate, because N₂ and N₁ are not the speeds of both turbines as is claimed. In claims 5 and 10, last line, --, respectively -- should be inserted after "turbines" to correct this.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Partington 4,460,316. Partington discloses a method of adjusting the resonant frequency of a moving blade insert 1 for a turbomachine turbine, wherein the insert is made to have at least two blades 11 interconnected by common inner and outer platforms 9, 15, respectively, and sharing a common root 13, and the resonant frequency of the insert is adjusted by forming a recess 27, 28, 29 in the insert root.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Partington 4,460,316 in view of Carta 3,400,912. Partington discloses a method of making a turbomachine turbine and a staged turbine for a turbomachine substantially as claimed, with the turbine comprising at least one moving wheel 3 provided with blade inserts 1, each of the inserts used for the wheel comprising at least two blades 11 interconnected by common inner and outer platforms 9, 15, respectively, and sharing a common root 13, wherein at least some of the inserts have a hollow root in which a recess 27, 28, 29 is formed, with the recess opening out into at least one side of the root, but does not disclose that insert roots belonging to the same wheel are

voluntarily given different configurations for the recesses in their roots so as to adjust the resonant frequencies of said blade inserts to values that are significantly different, thereby ensuring that the blade inserts of a single wheel are out of tune (claim 1), and does not disclose that respective recesses are formed presenting configurations that differ so that the inserts have resonant frequencies that are significantly different (claim 6).

Carta (figures 4-5) shows a rotor of a turbofan engine having blades 50, 51, 52, ... each having a root 45 with a blade hole 44 which may vary in size (see the abstract and column 7, lines 1-12) between adjacent blades, for the purpose of causing different natural frequencies in adjacent blades, thereby reducing self-induced vibrations. This arrangement is considered to result in significantly different resonant frequencies, as defined in Applicants' specification, because the arrangement of Carta causes a difference in gross resonant frequency of adjacent blades of 5% or more (column 7, lines 24-29).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the blade inserts of Partington such that insert roots belonging to the same wheel are voluntarily given different configurations for the recesses in their roots so as to adjust the resonant frequencies of said blade inserts to values that are significantly different, thereby ensuring that the blade inserts of a single wheel are out of tune and to form respective recesses presenting configurations that differ so that the inserts have resonant frequencies that are significantly different, as taught by Carta, for the purpose of causing different natural frequencies in adjacent blades, thereby reducing self-induced vibrations. Although Carta is

Art Unit: 3745

directed towards a turbofan rotor, one of ordinary skill in the art would have recognized the applicability of the teachings of Carta to the turbine rotor of Partington, because a turbo fan rotor is mechanically similar to a turbine rotor, and experiences the same type of rotational vibrations.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Japanese Patents 59-5,806 and 52-25,905 are cited to show turbine blade inserts with blades sharing a common root.

Kray and Klassen are cited to show turbine blade roots with recesses.

Gautreau and Martin are cited to show compressor blade roots with slots.

Gee is cited to show turbine blade roots with holes.

Allowable Subject Matter

Claims 2, 4, and 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 3745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
March 20, 2005

Christopher Verdier
Christopher Verdier
Primary Examiner
Art Unit 3745